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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,664	07/14/2006	Sai Shankar Nandagopalan	US030247US3	2487

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
OBAYANJU, OMONIYI	

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
06/20/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/565,664	NANDAGOPALAN, SAI SHANKAR	
	Examiner	Art Unit	
	OMONIYI OBAYANJU	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 April 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 14-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 14-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 04/12/2011 have been fully considered but they are not persuasive.

In **regards to independent claim 1,** the Applicant amended and argued that the prior art reference (Cimini) fails to teach at least in part;

> *"determining an allocated transmission time for each of the wireless stations based on a set physical transmission rate, wherein each of the wireless stations has individually allocated transmission time based on at least the quantity of data that needs to be transmitted within the service interval by each of the wireless stations."* (Emphasis added)

The **Applicant further argued that "**there is no discussion on the needs specific to a particular service interval**"** and that **"**the packet size is not the same as the quantity of data that needs to be transmitted within the service interval by the station."

In **response the Examiner respectfully disagrees** with the Applicant's argument. Cimini disclosed a MAC service data unit size based on data rate to achieve maximum transmission time of data packet by each node (pp0005). Cimini further teaches multiple nodes with respective transmission time (pp0034).

Therefore, based at least on the discussion above, the Applicant's claimed limitations did not specifically or particularly define "quantity of data" and service

interval" to overcome the prior art rejection. During patent examination, the claims must be given their broadest reasonable interpretation. See also MPEP §2111, the at least terms has been fairly characterized as "quantity of data" (packet data size), and "service interval" (MAC service data unit size).

The **Applicant further argued that** "Cimini is not concern about how much data that needs to be transmitted within the service interval by each station".

In **response the Examiner respectfully disagrees** with the Applicant's argument. Cimini teaches fragmenting, shaping, and/or partitioning the size of data packet to improve the chances of delivery or transmission (pp0060). The Applicant argument is not persuasive because Cimini is concerned with amount of data (size of packet data) transmitted in a MAC service data unit.

The **Applicant further argued that** the transmission time is the same as discussed in Cimini. "Therefore, in the claimed invention, the transmission times of the wireless stations are not necessarily approximately the same because the quantity of data that needs to be transmitted within a service interval by each wireless station may not be the same". (Emphasis added)

In **response the Examiner respectfully disagrees** with the Applicant's argument because the Applicant's claimed limitations as currently presented does not

specifically exclude the teaching of transmission time being the same. As further stated and/or discussed in the Applicant's arguments, the transmission time are not necessarily approximately the same...wireless station may not be the same. Therefore, based on the claimed limitations and the Applicant's argument above, the transmission time may or may not be the same. Thus, given the claimed limitations its broadest reasonable interpretation, Cimini covers and/or disclosed the broadly claimed limitation as discussed above and in the rejection.

Finally, **the Applicant argued that** "There is no individual allocation of transmission time based on the quantity of data that needs to be transmitted with in a service interval by each node under CSMA/CA".

In **response the Examiner respectfully disagrees** with the Applicant's argument. The claimed limitation stated "an allocated transmission time", but nothing was mentioned about the specific method or process of allocating the transmission time to overcome the prior art rejection which discloses communication nodes 1 and 2 with respective transmission time t1 and t2. Therefore, the Applicant's allocated transmission time does not overcome the prior art teaching of nodes obtaining transmission time as also discussed by the Applicant.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11, and 14-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Cimini, JR. el al. (US Publication No. 20030133427).

As **to claim 1,** Cimini teaches a method of providing bandwidth fairness in a wireless network that includes a plurality of wireless stations (abs, and pg. 4, pp0049, lines 7-8), the method comprising: determining bandwidth requirement (abs, and pg. 3, pp0036, lines 1-8) for a particular service interval (pg. 1, pp0005 lines 13-16) for each of the wireless stations (fig. 1b, #12a,b,c); determining an (different, fig. 5) allocated transmission time for each of the wireless stations based on a set physical transmission rate (pg. 3, pp0034 lines 14-16, and pp0037, lines 1-9), wherein each of the wireless stations has individually allocated transmission time based on at least the quantity (size of packet) of data that needs to be transmitted within the service interval (MAC service unit data) by each of the wireless stations (fig. 2, and fig. 10, pp0057-pp0060); and fragmenting a packet by at least one of the wireless stations if the at least one wireless

station transmits at a transmission rate that is lower than the set physical transmission rate (pg. 5, pp0060, lines 1-4 and pp0048, lines 13-15).

As **to claim 2,** Cimini teaches wherein the allocated time for each of the plurality of wireless stations is the proportional to the quantity of data to be sent by the respective stations (abs) during a service interval (pg. 1, pp0005 lines 13-16).

As **to claim 3,** Cimini teaches wherein for each of the at least one wireless station a number of the fragments is equal to the set physical transmission rate divided by the lower transmission rate (pg. 4, pp0042 lines 7-11).

As **to claim 4,** Cimini teaches wherein the allocated transmission time is equal to the total data of all packets generated in the beacon interval divided by the set physical transmission rate (pg. 4, pp0049).

As **to claim 5,** Cimini teaches wherein the wireless network is a multiple physical transmission rate wireless network (pg. 2, pp0030, lines 5-10).

As **to claim 6,** Cimini teaches wherein the wireless network is a Generalized Packet Radio Service (GPRS) network (pg. 1, pp0003, lines 11-12, Transmitting data at different transmitting rate is equivalent to (GPRS) network).

As **to claim 7,** Cimini teaches wherein the wireless network is a Wireless Local Area Network (WLAN) (pg.1, pp0003, line 1).

As **to claim 8,** Cimini teaches wherein each of the at least one wireless stations transmits all remaining fragments after all wireless stations that transmit at the set physical transmission rate have completed transmitting their packets (pg. 5, pp0062, lines 1-5).

As **to claim 9,** Cimini teaches further comprising maintaining a particular quality of service QoS for each of the wireless stations that maintain transmission at the set physical transmission rate during a service interval (pg. 3, pp0037 lines 8-15).

As **to claim 10,** Cimini teaches wherein each of the at least one wireless stations transmits all remaining fragments (fragments equivalent to packet) until its physical transmission rate is greater than the set physical transmission rate (pg.5, pp0057, lines 1-7).

As **to claim 11,** Cimini teaches a wireless network (fig. 1A), comprising: at least one access point (fig. 1B, 12d); and a plurality of wireless stations (fig. 1B, 12a-c), wherein in each service interval, the access point allocates a transmission time for each of the wireless stations based on their transmission requirements at a set physical transmission rate that is fixed for the service interval (pg. 3, pp0034 lines 14-16, and pp0037, lines 1-9), wherein each of the wireless stations has individually allocated transmission time based on at least the quantity of data that needs to be transmitted within the service interval by each of the wireless stations and wherein the plurality of wireless stations transmit at the set physical transmission rate (fig. 2, and fig. 10, pp0057-pp0060); and wherein if any of the plurality of wireless stations change their transmission rate to a lower transmission rate than the set physical transmission rate during the service interval, each of the wireless stations that change their transmission rate fragment their respective packets into two or more fragments of equal length (pg. 5, pp0060, lines 1-4 and pp0048, lines 13-15).

As **to claim 14,** Cimini teaches wherein the number of fragments is equal to the lower transmission rate divided by the set transmission rate (pg. 4, pp0042 lines 7-11).

As **to claim 15,** Cimini teaches wherein the transmission time is equal to the total data of all packets generated in the beacon interval divided by the set physical transmission rate (pg. 4, pp0049).

As **to claim 16,** Cimini teaches wherein each of the plurality of wireless stations is adapted to transmit at multiple physical transmission rates (pg. 2, pp0030, lines 5-10).

As **to claim 17,** Cimini teaches wherein the wireless network is a Generalized Packet Radio Service (GPRS) network (pg. 1, pp0003, lines 11-12, Transmitting data at different transmitting rate is equivalent to (GPRS) network).

As **to claim 18**, Cimini teaches where the wireless network is a Wireless Local Area Network (WLAN) (pg.1, pp0003, line 1).

As **to claim 19,** Cimini teaches wherein a particular quality of service (QoS) is maintained for each of the plurality of wireless stations that transmit at the set physical transmission rate for the entire service interval (pg. 3, pp0037 lines 8-15).

As **to claim 20,** Cimini teaches wherein each of the wireless stations that change their transmission rate to a lower transmission rate than the set physical transmission rate during the service interval (pg. 1, pp0005 lines 13-16) send their remaining fragments after all wireless station that transmit at the set transmission rate have completed transmission of their respective packets (pg. 5, pp0062, lines 1-5).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMONIYI OBAYANJU whose telephone number is (571)270-5885. The examiner can normally be reached on Mon - Fri, 7:30 - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KAMRAN AFSHAR can be reached on 571-272-7796. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. O./

Examiner, Art Unit 2617

/KAMRAN AFSHAR/

Supervisory Patent Examiner, Art Unit 2617